The European Organisation for Civil Aviation Equipment
L'Organisation Européenne pour l'Equipement de l'Aviation Civile

EUROCAE   Paris, June 17t[h], 2007

Minutes of the 10th meeting of the 'new' EUROCAE WG-49 "Mode S Enhanced Surveillance"

11th, 12th, 13th June 2007 in Malakoff, France

Attendees

Name	Organization	Contact information
Wiken, Randy	**Lincoln Laboratory**	**wiken@ll.mit.edu** **1-781-981-0379**
Hervé, Antoine	**DGAC/DCS**	**antoine.herve@aviation-civile.gouv.fr** **33-1-58-09-35-25**
Strong, Jason	**NATS**	**Jason.strong@nats.co.uk** **0044-1489-444701**
Gelli, Siefano	**SELEX-S.J.**	**sgelli@eleex-si.com** **Office: 39-16-4180-3801** **Mobile: 33-348-0336-839**
Bowen, David	**EUROCAE**	**David.bowen@eurocae.int** **32 473 790 036**
Hallworth, Kevin	**EASA**	**Kevin.hallworth@easa.europa.eu** **49-221-8999-04050**
Ruault, Pierre	**EUROCONTROL**	**Pierre.ruault@eurocontrol.int** **32-2-729-3198**
Grappel, Robert	**Lincoln Laboratory**	**grappel@ll.mit.edu** **1-781-981-3498**
Thedford, Bill	**AACAS LLC supporting the USAF**	**William.thedford@hanscom.af.mil** **Office:1-781-377-6989** **Mobile: 1-603-714-5220**
Mallwitz, Rolland	**DFS**	**roland.mallwitz@dfs.de** **(49) 6103 707 5785**
Potier, Eric	**Eurocontrol**	
Murat, Philippe	**ACSS**	**Philippe.murat@l-3com.com** **Office: 33-561773802** **Mobile: 33-675234607**

Apologies

Bob Saffell, Andrew Rose, Yves Audineau

Action items

Note: The minutes have been produced to match the agenda and not necessarily in the order that they may have been taken in.

1. Introduction

David Bowen welcomed the attendees to the meeting at EUROCAE in Malakoff, France.

2. Election of a New Chairman

David Bowen asked the attendee to select a new chairman for WG49. It was unanimously agreed that Antoine Herve be the new chairman. Andrew Rose will continue as the recording secretary.

3. Approval of Agenda

Antoine Herve introduced the proposed agenda. The agenda was modified to add some additional presentations.

Working paper: (WG49N10-01) Agenda for WG49N10.doc

4. WG49 new strategy

Antoine Hervé advised that a "WG49 Preparation Meeting" took place in may with D Bowen, E Potier, P Ruault, R Mallwitz(by phone) and him. Purpose of this meeting was to have a sum up of the current situation, to recall the initial goal of the WG49, and to define a strategy to get a "mops" at the end of the year. Antoine Hervé presented the work program which has been established at this meeting:

Focus on ELS/EHS

Harmonization with RTCA

SARPS compliance Annex 10 vol IV amdt 82.

Improvements e.g. Ground status + latter stage (postponed actions))

Items are classified by priority order. E.G compliance with SARPS will be checked once ELS and EHS requirements and specifications and harmonization with RTCA will be handled.

The Strategy was agreed.

5. Review of previous minutes

The minutes of the previous meeting were reviewed and were approved.

Working paper: (WG49N10-02) Meeting 9 Minutes - amended.doc

6. Review of previous action items

The actions of the previous meeting were reviewed in accordance with the strategy defined previously (c.f. chapter 4) Those actions in italics and shown as continuing are consider regular on-going items under the work of the group and will only be updated as significant changes occur. Those actions shown in gray were closed at this meeting under the agenda item shown. The remaining actions were either reviewed under the agenda item shown or as follows:

7. Agenda items

7.1. Proposal for a new structure documentation

Antoine Hervé presented the working paper WG49N10_05 regarding a new structure organization proposal for the MOPS.
It has been agreed to change the structure documentation in accordance with the WG49N10_05 working paper.
⇨   ELS and EHS specifications and Tests will be included in ED 73C chapter 3 and 5.
⇨   Dataflash will be extracted from ED101 and included as an appendix in ED73
⇨   Hijack mode will be extracted from ED73 core document and included as an appendix
⇨   It has been decided to extract the chapter "definition abbreviations" from the core document and include it as the appendix A of ED 73C to have exactly the same appendix structure (A, B, C and D) than the DO 181D.

Working paper: WG49N10_05 page 2.

New Action A10-01: A Hervé to propose to include definitions and abbreviations in a new Appendix A.

Kevin Hallworth raised also that in AMC 20-3 there was a reference to ED 82. As the new structure has been agreed, Kevin suggested reviewing ED82 in order to determine what part of ED 82 should be in ED 73.

New Action A10-09: E Potier to review and determine what part of ED 82 should be in ED 73.

7.1.1. Inclusion of ELS, EHS in ED 73 => chapter reorganization

Antoine Hervé presented the new chapter 3 organization. Firstly there were some inconsistencies in it. For example Extended squitters were in the subchapter Multisite Message Protocol. Secondly the new organization will allow a better (more readable) introduction of ELS and EHS specifications in ED73C and thirdly this new organization is totally identical to DO181D. It has been agreed to include ELS and EHS specifications and tests in ED 73C. The new chapter 3 organization has been agreed.

Working paper: WG49N10_05 page 3.

New Action A10-02: A Rose to reorganize the chapter 3 of the ED 73C chapter in accordance with the working paper WG49N10_05 page 3 (Note: Introduction of the ELS and EHS content (specifications) will be done through another action).

7.1.2. Inclusion of Aircraft Register format (BDS) in an appendix

Antoine Hervé presented the Appendix including the BDS. Extended squitters were included in the appendix. As Extended Squitter registers content should be handled in another MOPS. It has been decided to start the Appendix with register 0,B as it has been done in DO181D. The register format will not be described in the core document as it is done in the appendix. The core document (ELS and EHS specifications and tests) will refer to the BDS format described in the appendix.
⇨   Start with register 0,B, and not with extended squitters registers.
⇨   Check if the guidance material in Doc 9871 should be incorporated in this appendix.

Working paper: WG49N10_06

New Action A10-03 : A Hervé to rewrite "BDS Appendix" starting with register 0,B and ask SC 209 why extended squitter registers were excluded from DO 181D.

New action A10-04 : A Hervé to propose a new working paper including guidance material from Doc 9871 in this appendix

7.1.3.Inclusion of MSP in an appendix (Broadcast + Dataflash)

Antoine Hervé presented the MSP appendix.

Working paper: WG49N10_07

New Action A10-05 : A Hervé to review SC209 proposal and harmonize this appendix. ED 73 Dataflash Appendix should be the same than SC209 proposal.

New action A10-06 : Broadcast in Draft DO181 is included in appendix B (registers). **A Hervé** to propose to SC209 to consider Eurocae ED 73 appendix organization (MSP)

7.1.4.Hijack mode in a specific appendix in ED 73C

Antoine Hervé presented the HijackMode appendix. It was agreed that all Hijack Mode requirements shall be put in an appendix.

Working paper: WG49N10_08A Hijack Mode removal from the core chapters
Working paper: WG49N10_08B Hijack Mode appendix

New Action A10-07: P Ruault to review "WG49N10-08A" Hijack suppression from core document

New action A10-08: A Hervé to review SC209 appendix proposal : Hijack Appendix should be the same "WG49N10-08B"

7.2. ED 73 / DO 181 harmonization

7.2.1.Merging of generic and specific ELS/EHS requirement and test procedures

Eric Potier presented his working paper regarding ELS and EHS specifications. he took some actions to improve his proposal (a new version will be proposed to the "preparation meeting" in July to get a clean draft at the joint meeting)

Working paper: WG49N10_09

New Action A10-10: Eric Potier to take into account WG49 comments and to propose a clean draft at the preparation meeting

7.2.2.Issues resulting from the review SC209/WG49 Joint meeting

Eric Potier presented the differences between ED73 and DO181 noted during the Melbourne meeting. All the differences (except the 5 last) have been reviewed. To solve the differences it has been decided to modify ED and to ask SC209 to consider some modifications in DO181. Some other issues will have to be discussed during the Joint Meeting and also at the next TSG meeting (refer to the working paper).

Working paper: WG49N10_10

New Action A10-11: A Rose to include the agreed ED modification decision in the draft ED73.

New Action A10-12: A Hervé to send to SC209 (T Papagano) DO181 modifications considerations

New Action A10-13: E Potier to raise issue relative to ED 5.5.8.34 at the next TSG meeting

7.2.3.RTCA : 2.4.2.6.2 Test Procedure / Transponder recovery and desensitization

This item has not been discussed during the meeting.

Working paper: WG49N8_17
Working paper: WG49N10_11

7.2.4. ED 73B/C : Test procedure 5.4.7.2.e

David Bowen presented his analyse regarding this issue. In fact, there is no requirement in ED linked to this test procedure. Action for D Bowen to make a proposal (D Bowen issued a WP but we had no time to discuss on this subject again)

STEP 10 of 5.4.5.2 test procedure should refer to paragraph 3.12.2.**b** instead of 3.12.2.

Existing 5.4.7.2 test does not cover 3.12.2 and there is no requirement covering the current test.

Dave proposes to find if there is a requirement matching with the current test 5.4.7.2.e (step 5) and to accordingly adapt the tests procedure.

Working paper: WG49N10_19

WG49N10-20

New Action A-10-14 D Bowen to propose an new test procedure which refers to 3.12.2.a

7.2.5. Environmental Test Procedures

David Bowen reported from the last SC209 meeting that some Manufacturers were asking WG49 to reduce the number of environmental tests in ED73.

Kevin Hallworth and Pierre Ruault agreed that environmental tests could be reduced in ED73C. Nevertheless A Hervé stressed on that it could take a long time to review those tests and could postpone the issuing date of the mops.

Working paper: WG49N10_12

New Action A-10-15: P Ruault to consider with A Rose a possible reduction of environmental tests

7.2.6. Review to RTCA proposal changes to Com B protocol

P. Ruault and E Potier started to identify some change. But we had no time to review this item.

7.2.7. Review RTCA chapter 2.3.5.2.2 regarding 24 bits address (Action A8/21)

This item has not been discussed during the meeting

7.3. OB

7.3.1. SARPS CPs / Annex 10 Amdt 82

No time to discuss this item during the meeting

Working paper: WG49N10_14

7.3.2. CA transponder capability field

Not discussed during the meeting

Working paper: WG49N10_15

7.3.3. Capability to report ACAS Version Number

Roland Mallwitz presented the different working papers regarding this issue.

Working paper: WG49N10_16
Working paper: WG49N10_17
Working paper: WG49N10_18

7.3.4. Changes to ED-73 to cover TCAS transponder interoperability A9/06

Roland Mallwitz is still working on this issue and aims to present a working paper at the next meeting. He took also an action regarding this item from the SC209-WG49 differences working paper (agenda item 7.2)

New action A-10-16: R Mallwitz to propose a paper to TCAS interoperability including harmonization of the procedure #35 (ACAS Broadcast message) between DO and ED.

7.3.5. Guidance Material for Mode S-Specific Protocol Application Avionics / Lincoln Laboratory

Robert Grappel presented us the final version of the Guidance Material

7.3.6. Presentation of the EHS monitoring

B Thedford introduced us the military monitoring of EHS. The way they collect and compare the different EHS parameters to track consistency and compliance to EHS.

7.4. AOB

7.4.1. Transponder behavior in stand-by mode (indication)

K Hallworth presented the NTSB recommendation on TCAS standby annunciation. Two issues – sequence of switching is important and that the transponder will communicate its state to the installation. Possibly establish a requirement that for the transponder to go to stand by the TCAS/ACAS must be off or in standby. Action to propose something (note: something exists in Arinc spec: "xpder in stdby mode" specific Arinc label with SSM = NCD, used by ACAS system)

New Action A-10-17: K Hallaworth to propose a paper to address NTSB recommendations

7.4.2. Shall "book mark : shall 008" / Comparison of the shall ED73C and DO181D

B Thedford presented us an easy way to compare the two MOPS by tracking the requirements through a macro on the "shall" word.

8. Future meeting dates and locations

Preparation meeting to update ED 73(informal meeting to prepare the joint meeting) the 2nd week of July in Paris from Monday the 9th to Wednesday (Eurocae)

⇨ Check with David Bowen, Room availability and A Rose availability

Joint meeting from 20th to 24th of august in Brussel

New Action A-10-18: D Bowen to provide room for informal meeting in July.
New Action A-10-19: D Bowen to identify internet site for WG 49 working papers.

Item which has not been discussed during the WG49N10 meeting, but discussed during the may preparation meeting => Propose to put those two items as actions (TBD):

Action A-10-20: E Potier to propose a working paper to address merging of ELS/EHS specific and generic tests

Action A-10-21: P Ruault to propose a working paper to review ED 101 and to address Broadcast in "MSP appendix"